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ENTOMOLOGICAL NEWS

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HENRY SKINNER
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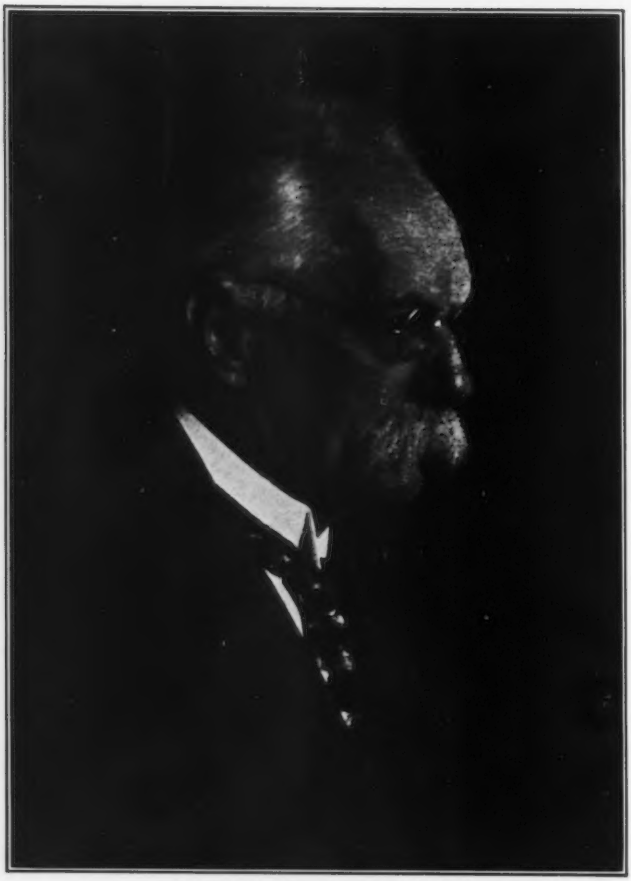

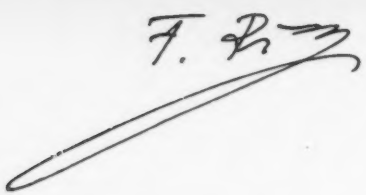

THIS PORTRAIT IS REPRODUCED, BY PERMISSION, FROM THE "MITTEILUNGEN" OF THE SWISS ENTOMOLOGICAL SOCIETY, VOL. XV, NO. 2: THE AUTOGRAPH IS FROM A LETTER OF SEPTEMBER 3, 1929.

ENTOMOLOGICAL NEWS

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Dr. Friedrich Ris.

(Portrait and autograph Plate IV)

Dr. Friedrich Ris was born in Glarus, Switzerland, January 8, 1867, as the second oldest of four children, three brothers and one sister. The family since the sixteenth century were citizens of Glarus, the little capital of the canton Glarus, one of the old mountain cantons. In 1873 he entered the school of the little town. It was a Volkschule and there was no other, but it was of good standing, so that when the family moved to Zürich in 1881 F. Ris could attend, without trouble, Class III B of the Lower Gymnasium, with the Züricher boys of his own age. He attended the Zürich Gymnasium up to the Maturitätsprüfung in 1885. He selected the study of medicine and completed all five semesters at the University of Zürich. In 1890 he passed the State Examination and acquired the doctor's diploma in the same year. His doctor's thesis concerned a surgical question and was approved by the then Professor of Surgery of the University, Dr. Krönlein.

In order to see something of the world after his student years, passed entirely in Zürich, he entered the employ of the Norddeutscherlloyd at Bremen as a ship's doctor. He made four voyages, one to North America, two to South America and one to the East as far as Shanghai. His brief shore leaves he used preferably for entomological excursions.

After his return he was in the surgical division of the cantonal hospital at Zürich as assistant physician, 1892-93, under Prof. Krönlein. It was a time of extremely severe hospital work. Free days were used for high mountain tours and entomological excursions. In 1892 there was a short visit to the Eppendorf Hospital in Hamburg, where his student friend Dr. L. Manchot worked. A cholera epidemic prevailed at Hamburg and his friend had asked Dr. Ris to come and study the disease on the spot. Dr. Ris possessed an unusual gift for

surgical medicine, thanks to his sure and light touch. Indeed, as assistant physician in the Insane Hospital at Rheinau, and later as Director, he performed for years all major and minor operations both in the Institute and in the village of Rheinau. Later, as he himself said, the technique changed in many respects and since the Winterthür Hospital was near he had his surgical patients treated there. In serious cases, however, he would always take part.

In 1895 he left the Cantonal Hospital at Zürich, as exclusively surgical activity had not pleased him. He entered the service of the Insane Hospital at Rheinau as Assistant Physician under Bleuler, who was then Director. In 1897 the canton Tessin began the construction of its Insane Hospital and called Dr. Ris as Director thereof. He accepted the call and went to Mendrisio after some months of study with Prof. Forel in Burghölzli. In Mendrisio, building came first, but as overseeing the building did not fully occupy his time and mind, he obtained permission to dwell in Pavia and to work in Golgi's laboratory there. When in 1898 Prof. Forel retired from his office, Bleuler became his successor as Director of Burghölzli and professor of Psychiatry. Dr. Ris was chosen as Director of the Insane Hospital at Rheinau, where he remained to his death.

This is an outline of the medical career of Dr. Ris. It is accompanied by another, that of the learned investigator of Nature. This begins in early youth and is really the main career and that of the physician is added to it. Dr. Ris began butterfly collecting as a boyish sport, which was soon cultivated with great earnestness and thoroughness, as I well remember. He was encouraged in this in early boyhood years, not by a teacher, but by a notable woman who practised the calling of taxidermist, that is, she stuffed animals of all kinds for collections and museums. She had thereby acquired, self-taught, a well-founded knowledge in diverse fields of natural science, that is of zoology. She showed the boy the knack of spreading insects and preparing them, and lent him her books on Natural History. At the Zürich Gymnasium, Prof. Gustav

Schoch, who taught Zoology, soon noticed his scholar Ris. He introduced him into the "Entomologische Kränzchen," a small society of Zürich entomologists from the most varied walks of life. In 1886 he made the acquaintance of Dr. Max Standfuss, who had become Conservator at the "Eidgenossische Technische Hochschule." This acquaintance became a life-long friendship. At the end of the eighties began the correspondence with Baron de Selys-Longchamps.[1] That with K. J. Morton was "begun in 1893 on the introduction of the late Mr. McLachlan", that with the writer in 1896. Sixty-four of his letters and cards, from December 22, 1896, to September 23, 1930, lie before me and I shall let them tell, as nearly as possible, the story of his entomological work. Two of the earliest are in German, the remainder in English: "schreiben Sie mir Englisch", so runs the first letter, "ich verstehe es vollständig, schreibe es auch, aber dies doch nicht so leicht, dass ich da, wo es möglich ist, nicht lieber meine Muttersprache anwendete."

That same letter, of December 22, 1896, is prophetic of what was to be his greatest work:

Einen Plan den ich einst hegte, nämlich Material zu sammeln, um selbst die Synopsis der Libellulinen auszuarbeiten, habe ich so ziemlich wieder ausgegeben. Meine Berufsarbeiten als Arzt und Direktor einer (allerdings sehr kleiner) Irrenanstalt gestatten mir kaum so weitreichende entomologische Arbeiten zu unternehmen. Ich bemühe mich aber sehr meine Sammlung von Libellen der ganzen Welt zu vergrössern, oder eigentlich ist zu schaffen, denn zur Zeit ist sie noch sehr klein.

In the same epistle too, he wrote: Beside the Odonata I concern myself also with other Neuroptera, particularly the Trichoptera in recent years have absorbed a large part of my time available for entomology. (Transl.)

Many of his letters are, naturally, occupied with remarks on one or other of our entomological papers which we were constantly exchanging, or on work in progress.

In July I was with M. de Selys Longchamps at Liége and Longchamps and with M. René Martin at Le Blanc. The study of the two great collections was extraordinarily interesting to me. (1. Aug. 1899.)

[1] Up to this point I am indebted to the kindness of Fräulein ELISABETH RIS for this account of her brother.

My own interest in Odonata is as active as is possible with regard to my time for entomology. I am engaged in rather heavy work, having agreed to the wishes of Baron de Selys Longchamps' son (and his own as deposited in his testament) and undertaken the collaboration in a Catalogue of the Selysian collection. Sometimes I am really afraid that I have undertaken too much and am not able to finish what I have begun—not by want of zeal (and insight, as I might perhaps venture to add) but merely by lack of time. But I hope still and am busy in that time which I can dispose of. My part in the work is the Libellulinae and I earnestly try to make of it not a mere catalogue of the collection, but a review and synopsis of all that is described to date. More especially will I try to bring Brauer's system (which is still the best) up to date and to group the genera as well as may be done without knowledge of the early stages. Then a careful study and in many cases a new description of the Ramburian types is necessary. My idea of the work (more especially of my part, the Libellulinae) is to give:

1. A critical catalogue of species (Kirby's work will be of great value as an almost complete bibliographical reference, much less so for systematics and for critical examination of species and descriptions).
2. A system of Libellulinae up to date.
3. Keys to the more numerous [in species] and more difficult genera.
4. Complete descriptions of such species as might prove new and of the Ramburian types as far as there is need of such.
5. Special reference to where a complete description may be found.

I do not care to have any great number of nov. spec. to present (I really think there are not so many as one might suppose) but will earnestly try to know not only what is really described but also distinct. Mr. Kirby has collected the *names* with marvellous patience and learning, but I would try to get through the names on the matter itself, as M. de Selys has done on those groups that he has worked out. The task is, indeed, very heavy, but if I can get through, something good might be done.

I repeat that priority questions to me are absolutely of no consequence in the present work and that my only ambition is to get up a tolerably reliable systematic and critical catalogue of Libellulinae with here and there a description where there is need for it and some good keys for the large and difficult genera. In not a few genera (I may name *Tramea, Orthetrum,*

Old World *Trithemis*, etc.) great slaughter of old (and sometimes new) names will be necessary to bring some order into the matter. (1 Dec. 1901.)

Sometimes the work seems interminable and courage is nearly failing. (2 Feb. 1906.) I am much more inclined to reduction than to multiplication of genera. (18 Feb. 1906.)

I will not be long in telling you what I have done in London.[2] My time was too short for paying a visit to Mr. Champion without being in a hurry and so I did not use the letter of introduction that you had so kindly given me. So besides the Natural History Museum and a Sunday afternoon at Kew, I have seen nothing of the sights of London, the greatest sight being indeed always the Metropolis itself. My stay was of but one week. From the many notes that I have taken at the British Museum, I will take out such as might interest you for the B[iologia] C[entrali-] A[mericana], together with such observations in the same line from the de Selys collection where I have again worked for eight days before going to London, (5 Nov. 1906.)

A serious injury to an eye (received, I believe, in the institute at Rheinau) threatened the continuance of his work on the Catalogue; it is referred to in two of his letters:

I have to thank you heartily for two very kind letters. The first I received when in the hospital at Winterthür for treatment after that bad accident, the second when I was just leaving home for Italy. I think the best I can do for myself, and to merit all those good wishes I received from many friends is to be courageous and try to get on again as if things were unchanged. That of course they are not; but the deep mental, and to some degree also physical, depression that immediately followed the accident, is now fairly over. I am here at Ischia with a good friend (Prof. Lang, zoologist of Zürich University) where we both take long walks for health and distraction and do some little work. I have here my Libellulinae notes and am working at the printer's copy, getting on pretty well . . . The oculist told me that the right eye, although short-sighted, is good for any kind of work and that I have not to take any special regards. (Porto Is., Ischia, Italy, 24 March 1907.)

[2] This was in May, 1906, when he made his only visit to Great Britain and spent a few days at Edinburgh with Mr. Morton (K. J. M. in litt. 9. June, 1906, and Ent. Mo. Mag. lxvii, p. 66, March, 1931; the latter reference is to an appreciative obituary of Dr. Ris).

You were so kind as to ask about my personal health, etc. Well, I think I overcame pretty well the great blow which the entire loss (such it was) of my left eye was at first and to a certain extent continues to be . . . I dare say I am doing, since about the end of the year 1907, when the immediate effects of the disaster began slowly to vanish, my fair share of work. In professional duties, I have gradually taken up again all my work . . . In entomology, I think I have done, since the end of 1907, more work than in any corresponding period of my life. The reason is simple, for I was soon aware that the best way to forget and not to haunt after regrets for the past and better days was to give way to a certain working fever that from time to time came over me. Formerly I had sometimes thought of giving up entomology, at least temporarily, as being in contrast [conflict] with my duties; but now I feel I owe too much to that science to give way at any time to such a thought. (27 Feb. 1909.)

Printing of the Libelluline portion of the Selys Catalogue began at Brussels in the Spring of 1909 and continued until 1913, forming fascicles 9-16 (1re partie) of the whole series. In the meantime, as is usual in such cases, a large amount of additional material was placed at Ris's disposition for study, especially the extensive Guatemalan, Guianan and Trinidad collections of E. B. Williamson. Work on a supplement dealing with these was begun. The World War broke out, interfering with further publication at Brussels.

The following is the situation of the last part of the Libellulinen of the Selysian Catalogue. It is very nearly finished; proofs are now being read of the alphabetical index; besides the rest of this index and some title pages, everything is printed. But—as far as I am aware, M. Severin had not the intention to send off the edition before the end of the war. (20 March 1916.)

Various plans were considered for the preliminary publication of the new species in the United States or in Holland. Finally

My friend Severin writes to me that the last installment of my Libellulinae monograph (with the indices and bibliography) has been deposited on March 1, 1919, at the National Library, Academy of Sciences, etc. It therefore may be regarded as published at that date. (11 March, 1919.)

This monograph of "Libellulinen" of 1248 quarto pages, 692 text figures and 8 colored plates is undoubtedly Ris' great and lasting contribution to science. It has been reviewed in the NEWS [3] at some length and therefore will not be further discussed here.

Ris's general papers on the Odonata, seven in number, include, in addition to the Libelluline monograph, *Untersuchungen ü. die Gestalt des Kaumagens bei den Libellen u. ihren Larven* (1896) [4], with phylogenetic conclusions, *Oviposition in Cordulegaster* (1905), *Kopulationsmarken bei Libellen* (1910), *Die Atmungsorgane d. anisopteren Libellenlarven* (1913), *Ueber Ontogenese d. Flügeladerung bei den Libellen* (1916), and *Gynandromorphismus bei Odonaten* (1929). Seventeen papers refer to the palaearctic fauna (Switzerland 1886, 1890, 1894, 1897, 1916, 1919; Spain 1927; central Europe 1900, 1909, 1910, 1920; Europe in general 1906, 1927; Central Asia 1897, Persian Gulf 1928; China 1928, Northern Africa 1911, 1928), twelve to the Oriental (six to the Asiatic mainland or nearby islands, 1912, 1914, 1916, 1917, 1927, 1930, six to the Malay Archipelago 1911, 1912, 1915, 1916, 1927, 1930). Seven papers are concerned with the Australasian area (1898, 1900, 1910, 1913 two, 1915, 1929), eleven with the Ethiopian region (1909, 1911 two, 1912, 1913, 1915 two, 1917, 1921, 1924, 1931). Four relate to Nearctic species (1902, 1903, 1910, 1930) although the last of these, that on *Perithemis*, is even more concerned with neotropical forms. Nine more papers are restricted to the neotropical fauna (1904, 1908, 1912, 1913, 1914, 1917, 1918, 1928 [5] two).

Of these faunal papers, special importance is to be assigned to the larval studies on central European material (1909, 1910, 1920), the extensive memoirs on Odonata of Formosa (1912, 1916), on E. Jacobson's collections in Java (1912) and Sumatra (1927), the handbook, as it really is, for South African

[3] Vol. XXXI, pp. 26-28, Jan. 1920. The editorial in our issue for November, 1918, entitled "Entomology in Central Europe," gives extracts from Ris's letters of 3 March and 16 Sept., 1918, without mention of his name, and testify to the depression produced by the war.

[4] See Ent. News, viii, pp. 39-40, 1897, for an abstract.

[5] Reference to the Zoological Record for the years given for the papers will give the place of publication.

Dragonflies (1921) and *Libellen aus der Region der amerikanischen Kordilleren von Costa Rica bis Catamarca* (1918).

At least five of the papers enumerated above as referring to the Swiss fauna contain data on other "Neuroptera" as well. There are besides at least five papers especially concerned with Perlidae (1896, 1902, 1903, 1905, 1913) four with Trichoptera (1893, 1895, 1903, 1904) one with Plecoptera, Neuroptera and Trichoptera (1923)—all of the Swiss fauna.

There are four general entomological papers: *Ueber Richtungslinien der Systematik* (1916), *Der Artbegriff, insbesondere in der Entomologie* (1918), *Beobachtungen und Gedanken über Zoogeographie auf kleinstem Raum* (1924) and *Die geographische Verbreitung der Insekten der Schweiz* (1926), the last being one of the opening addresses at the Third Entomological Congress at Zürich, in July, 1925.

In later years his interest in collecting and rearing Lepidoptera revived. His friendship with Dr. M. Standfuss, to which his sister has referred, had led to a detailed summary (1895) of Standfuss' experiments on the effect of extreme temperatures on Lepidopterous pupae and a review (1896) of the second edition of the latter's *Handbuch der paläarctischen Grosschmetterlinge*. After the Libelluline monograph was well out of the way, the fruits of butterfly studies appeared in papers on sexual characters of pupae (1920), the sphragis of *Parnassius* (1924), the generations of *Pieris napi* (1928), and seasonal forms of Swiss butterflies (1930).

Several fairly extensive pieces of taxonomic research were still on his hands when he passed away—the African Pseudagrions, *Orthemis,* Neotropical Trameas with new materials, Chinese and Philippine collections.

And in the background of all stands preparatory work for a new Catalogue of Odonata. If I live (in good condition for work) to 1932, when I can retire, and if nobody else does the work in the meantime, I hope I shall do it. When a year ago I made a summary extract of the Calopterygidae for Sjöstedt, I found that three-fifths of the species were represented in Kirby's work, two-fifths not yet catalogued. Similar proportions supposed to exist all over the order, it is evident that a new catalogue would be desirable (17 Nov. 1928).

Regarding catalogs: My idea is not to put Kirby's Cat. up to date, but to make an entirely new thing. It is very questionable if I ever arrive to do that; the possibilities fully depend on the condition in which I may eventually retire from my office; the date would be 1932; it is a long way to that and before I am retired I can only undertake minor work in entomology, since the forces are no more sufficient to do both things: professional duties and serious research work. But I am, as a means that eventually could also serve another person and successor, keeping up to date a manuscript catalog of all described living Odonata, into which every record of Odonata, that passes through my hands, is put down. Every name has a sheet; in the newer parts cross references are regularly entered and such are also made as soon as they turn up for the older parts. The whole is divided into subfamilies for Anisoptera, 'legions' for Zygoptera; within the subfamilies or 'legions' genera are arranged alphabetically, so are species within genera. Geographical notes are always extracted, other remarks often added. The whole thing is very nearly complete. For a printed catalog, the great question would be to arrange systematically the alphabetical rough material. This latter task would, to my view, need a volume of comment. . . . If I live up to 1932 in good form for such work, it shall be the first thing that I undertake; if not, the MS. catalog may pass to somebody else for similar use. . . . The catalog is written on writing paper (octavo), not cards, and in a number of portfolios, measures 55 cm. over the back. Together with the set of books and the collection it makes my odonatological working outfit and makes me almost independent from the resources of a great city and enables me to do some work in this out of the way place. (25 Feb., 1929.)

The technical solution of a general collection in the hands of a private man of very limited means was given, as soon as I made up my mind to renounce the setting of specimens altogether; the whole collection is papered, and I find that for working purposes this condition is even preferable to a set collection. (9 Jan. 1913.) My collection (I say it again when examining some parts with Tillyard) must now be one of the largest in existence (the Museums included). It is in good working condition, but not fit for show. (7 Sept. 1926.)

You may be right with your intentions to concentrate your activities on the Costarican and similar materials. But I freely admit that I must regret such a decision. I see the moment coming when I shall thus be alone to try for a comprehensive knowledge of the whole field. The Americans conspicuously limit their investigations to the inhabitants of their own two

continents;[6] Laidlaw, Fraser, Lieftinck have never touched American materials; Morton has his great love for the Palaearctics; Schmidt is hesitating, also with Palaearctic sympathies. So it may sometime appear that my own work, rambling over the five continents, must necessarily be somewhat superficial. Nevertheless I think I shall continue in the old way, partly from real interest in the whole series, which interest I can only temporarily concentrate on one geographic unit, partly from a feeling that there should be at least one representative of the older generation, who tries to be able to give (with due allowance for time and otherwise limited possibilities) an answer to any single question that might be put to him on dragonflies of any part of the world—thus continuing (perhaps as a kind of 'glacial relic') the traditions of Selys and McLachlan. If my hope of realizing some day a new catalogue is not vain, the necessity of continuing the studies on the universal line is, of course, imperative. (23 Sept. 1930—the last letter I had from him!)

The students of the Odonata found their way to Rheinau: Morton in 1904 (and in August, 1928, at Zürich), R. J. Tillard and Mrs. Tillyard in 1926, E. M. Walker in the summer of 1928, the writer and Mrs. Calvert in August, 1929.

Indeed one of the great services that entomology has done me, and continues to do, has been the development of friendships that have given color and distinction to an existence which otherwise might have been a rather dull one in many respects. So nature pays to her lovers not only with her own admirable and sublime productions, but also with the friendships of fellow admirers and followers of her beauty and profound secrets. Like to yourself, so to me, correspondence of days to come will be enlivened by the remembrance of a personal intercourse, which was delightful in every respect (3 Sept. 1929.)

On Tuesday, January 27, 1931, his sister writes us, Dr. Ris attended the funeral of a long-time associate in Zürich. On Thursday evening, the 29th, he was arranging lantern slides for a lecture to the patients to be given in the first week of February. On the following morning, when he did not appear long after his usual hour, he was found to have passed away—apparently peacefully and painlessly.

From her letter and from one from Mr. K. J. Morton, we learn that, under Dr. Ris's will, his dragonfly collection with

[6] This, of course, was written before the appearance of Prof. Needham's extensive *Handbook of the Dragonflies of China.*

that part of his library, printed and written, referring to the Odonata, and his entomological correspondence, goes to the Senckenberg Museum in Frankfurt am Main; the Trichoptera, and presumably the other "Neuroptera", and pertinent literature, to the Entomologisches Institut der schweizerischen technischen Hochschule in Zürich; his Swiss butterflies to the Naturforschenden Verein in Schaffhausen.

Ris was truly the successor of de Selys, Brauer and McLachlan. Morton, in his obituary notice, and Needham, in a private letter, both use the word "foremost" to designate his place as an authority, a student, of the Odonata of the world, and rightly so. When I read a sentence in his letter of 14 Jan., 1930, to me: "do not forget to think about the possibilities of writing on history of entomology!", I hope that this present endeavor to record his life and work may be a fulfillment of his injunction. The loss of a sympathetic correspondent of more than thirty years' standing is no little thing, nor can we ever quite replace in our affections those of our own, or of an older, generation,

"Treasuring the look we cannot find,
The words that are not heard again."

PHILIP P. CALVERT.

A Scarcity of Specialists.

From the *Annual Report of the Institute for Medical Research of the Federated Malay States* at Kuala Lumpur for 1929, we take the following: Mites in oil palms: At the beginning of the year, monthly collections of mites from the decayed male flowers of oil palms were commenced. This material again yielded large numbers of mites, but in this country, owing to the absence of literature and types for comparison, there was no opportunity of identifying the great number of forms met with, a large percentage of which is probably undescribed. Dr. Guy A. K. Marshall, C. M. G., F. R. S., Director of the Imperial Bureau of Entomology, very kindly endeavoured to find someone in Europe who would undertake the work of identifying the mites. His efforts were unsuccessful, however, owing to the great shortage of competent acarologists, and these collections were therefore abandoned. Enough mounted material was retained to indicate whether or not a mite found on a coolie on the estate had its origin in the oil palm. (P. 14.)

Parachernes ronnaii, a New Genus and Species of False Scorpion from Brazil (Arachnida-Chelonethida).

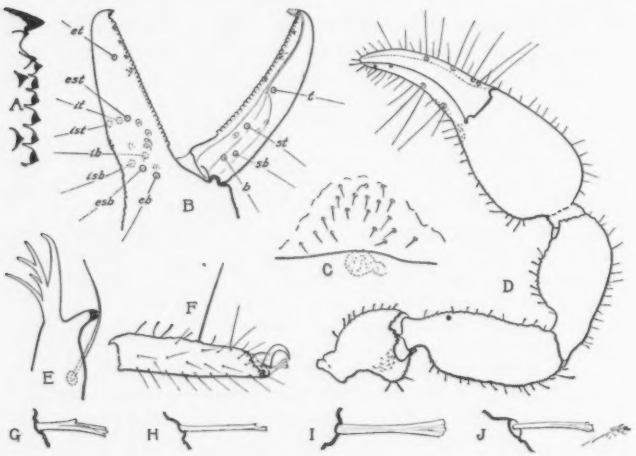
By Joseph Conrad Chamberlin,
Twin Falls, Idaho.

I am indebted to Dr. Antonio Ronna of Caxias, Rio Grande do Sul, Brazil, for the specimen upon which this paper is based. I take pleasure in dedicating this interesting species to its discoverer.

PARACHERNES gen. nov.

Orthotype. *Parachernes ronaii* sp. nov. Brazil.

Diagnosis. Typical cheliferoid genus belonging to the family Chernetidae, and related to *Chernes, Hesperochernes,* and *Dinocheirus.* Eye spots present but inconspicuous; carapace of usual form and provided with two procurved transverse furrows;



Parachernes ronnaii gen. and sp. nov. ♀.

A. Tip of fixed finger of chela showing type of dentition. Note accessory as well as marginal teeth. B. Exterior aspect of right chela showing chaetotaxy, dentition, and venom apparatus. C. Genital operculum. D. Ventral aspect of left pedipalpus or cheliped. E. Galea. F. Tarsus of leg IV. G, H, I, J. Characteristic types of setae. G, from anterior face of tibia of pedipalp; H, from fourth pedal tibia; I, from pedipalpal trochanter and J, from pedal femur. All same scale of magnification.

flagellum of 3 blades; sexual development of galea unknown but probably dimorphic; the normal 5 setae of palm of chelicera present, b and sb showing typical terminal denticles as in *Hesperochernes;* lamina interior with dentate terminal tooth and 3 dentate subterminal lobes; basal lamella of serrula exterior elongated to about twice normal length and acute; other lamellae of typical ligulate form. The chaetotaxy of the chela differs markedly from that occurring in *Chernes, Hesperochernes,* or *Dinocheirus* and is characterized principally by a marked basal concentration of the interior series of tactile setae (fig. B). Sense spots occur on both fixed and mobile fingers of the chela but are few (fig. B). Chela provided with accessory teeth both interiorly and exteriorly (fig. A and B). Venom duct of long type, the nodus ramosus lying barely proximad of the terminal seta of the movable finger (fig. B). Dorsal sclerites of body and most of pedipalps beset by thickened, scarcely clavate, terminally dentate setae (fig. G-J). Expanded abdomen normally ovate, extending well beyond the fourth legs when these are normally flexed. All tergites and sternites except the eleventh longitudinally divided into scutae by a relatively broad membranous strip; each bearing the usual border series of 14 to 16 setae. Posterior tergites normal, definitely transverse *(not recurved).* Eleventh tergite bearing a lateral pair of pseudotactile setae, the 11th sternite with a submedian pair. Female genital area characterized by a loose cluster of about 20 short acute setae (fig. C) much as occurs in *Hesperochernes.* Legs typical, claws and subterminal setae simple; fourth tibia without tactile seta; tactile seta of tarsus IV half as long as tarsus and placed midway between the base and tip of the segment (fig. F). Tracheal trunks without internal papillate projections.

Remarks. From all previously named segregates of *Chernes, Parachernes* differs markedly in the chaetotaxy of the chela; from *Hesperochernes* it differs in possessing a 3 instead of 4 bladed flagellum; from *Hesperochernes* and *Chernes sens. str.* it differs in the possession of a tactile seta on the 4th tarsus; from *Dinocheirus, Hesperochernes,* and *Chernes* it differs in the non-clavate setae of the dorsal sclerites and pedipalps; from *Dinocheirus* and *Chernes* it differs in having the sub-basal and basal setae of the chelicerae both terminally dentate. In the absence of a male example the presence or absence of sexual dimorphism in the chela can not be directly ascertained. The

following considerations may, however, yield a clue as to the facts in the case. The orthotype of the genus seems to find its nearest described relative in *"Chernes" michaelsoni* Sim. as redescribed by With.[1] With's redescription was based upon a single male. According to his figures the chaetotaxy, etc., of the chela is quite similar to that here figured for *P. ronnaii*, and it is likely that the two are congeneric. He represents the chela fingers as clearly gaping. From this we may tentatively infer that the chela *is* sexually dimorphic in *Parachernes*. Since With would rarely describe as new a species which by any possibility could be assigned to one already named, it is impossible to be sure that *michaelsoni* Simon and *michaelsoni* (Sim.) With are really the same species because of the serious inadequacy of Simon's original description as seen in the light of present knowledge.

Parachernes ronnaii sp. nov. (Figs. A-J)

Holotype, ♀, (JC-716. 01001) taken clinging to a fly at Caxias (Rio Grande do Sul), Brazil, by Dr. Antonio Ronna. Deposited in Stanford University Collections.

Diagnosis. Anterior carapacal furrow most distinct of the two, median in position and laterally procurved; posterior furrow nearer posterior carapacal margin than anterior furrow and only slightly procurved laterally. Carapace longer than broad behind, bordered posteriorly by 12 short thickened setae. Scutae of third tergite narrower than either those preceding or succeeding; tergites bordered by about 14 to 16 thickened setae each, the median ones at least bearing in addition a single slender and slightly subclavate, terminally denticulate seta anterior to the marginal series on either side. Each tergal scutum with a weak central spot. Fingers of chela with about 32 or 33 well defined slightly retro-conical marginal teeth (fig. A and B); with an exterior series 3 and 4 evenly spaced, small and inconspicuous accessory teeth exteriorly on the movable and fixed fingers of the chela respectively (fig. B); interiorly there is on either finger a single large accessory tooth about 1/3 removed from finger tip (fig. B); sense spots sub-basal exteriorly on both fingers and interiorly on the fixed finger (fig. B). Palps as illustrated (fig. D); maxilla smooth except on post-

[1] With, Carl. 1908. Cheliferinae. Trans. Zool. Soc. London 18:282. Figs. 22 a-c.

clivus; remainder of palps, except posteriorly on tibia and chela and on fingers, evenly granulate and beset by thickened setae (fig. G and I). Trochanter with a distinctly conical protuberance or heel behind, 1.3 times as long as broad; femur typical, 2.3 times as long as broad; tibia normal, subequal to femur in length, 2.1 times as long as broad and 1.2 times as long as hand; chela 2.7 times as long as broad and almost 1.3 times as long as breadth of trochanter; fingers scarcely longer than hand but clearly longer than its breadth; hand very slightly broader than deep and 1.3 times as long as broad. Chelicerae typical, galea with 6 branches (fig. E). Length of adult, ♀ 2.1 mm.

A New Louse from Domestic Chickens (Mallophaga: Philopteridae).

By HAROLD S. PETERS,
Bureau of Entomology, U. S. Department of Agriculture.

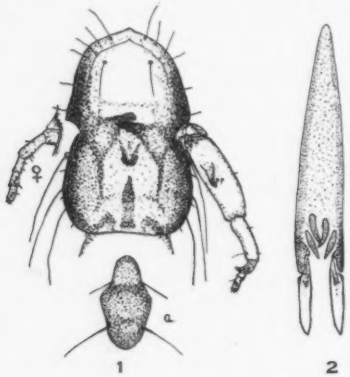
During a collecting trip in the southern Bahama Islands in the summer of 1930 I found a new biting louse (order Mallophaga) on the heads of chickens in four localities. The common chicken head louse (*Lipeurus heterographus* Nitzsch) was not found. Four other species of lice common on chickens throughout the world were found in connection with the new species; namely, the wing louse (*Lipeurus caponis* Linn.), the fluff louse (*Goniocotes hologaster* Nitz.), the shaft louse (*Menopon gallinae* Linn.), and the brown chicken louse (*Goniodes dissimilis* Nitz.). According to the natives, the original stock of their poultry was obtained from Haiti or Santo Domingo, so this is evidently a tropical species. This is further evidenced by the fact that specimens from domestic chickens from Venezuela and Liberia were found in the collection of the National Museum.

Lipeurus tropicalis n. sp.

Described from 42 individuals collected from chickens in the Bahama Islands, by myself, as follows: Four males, two females, and one immature form from Great Ragged Island, July 3, 1930 (Bishopp No. 15063); eight males, nine females, and one immature form from Providenciales, Caicos Islands; July 23, 1930 (Bishopp No. 15144); one male, one female,

and four immature forms from Grand Turks Island, July 31, 1930 (Bishopp No. 15193); and three males, three females, and five immature forms from Great Inagua Island, August 10, 1930 (Bishopp No. 15276). Also described from specimens in the National Museum as follows: One female collected from chicken at Cuidad Bolivar, Venezuela, July, 1925, by L. H. Dunn; and two males and two females collected from chicken at Reppo's Town, Liberia, August 31, 1926, by Prof. Jos. Bequaert.

Description of MALE. *Head* one and one-half times as long as wide, obtusely angled in front; forehead widest just before the large and movable trabeculae. Head little wider across temples than before trabeculae. Temples broadly rounded. Posterior edge of head slightly concave. Eyes clear and protruding, with a long dorsal ocular seta. Color light brown with dark brown lateral borders, antennal and occipital bands, esophageal sclerite, mandibles, and a long narrow gular signature. Antennae almost as long as head, reaching, if extended backwards, beyond the prothorax. First segment pale, greatly enlarged, and elongated, being as long as the remaining four segments combined and bearing a dorsal projection from the middle of the segment. Segment 2 half as long as segment one and longer than segments 3, 4, and 5 combined. Segment 3 dark brown and formed into a dorsal inward pro-



Explanation of Figures.

Fig. 1. Head of male, dorsal; female antenna at left. All x 44. a, Sternum. x 44.
Fig. 2. Male genitalia. x 44.

jecting hook slightly longer than either segments 4 or 5, which are about equal in length. (Fig. 1.)

Thorax almost as long as head, pale brown in color with dark brown lateral margins and with a typical, somewhat pear-shaped sternum (Fig. 1, *a*). Prothorax about two-thirds as wide as head, and about one and one-third times as wide as long, roughly rectangular in shape, the sides almost parallel, the posterior edge slightly convex, and with a seta at each latero-posterior rounded angle. Pterothorax roughly trapezoidal in shape and slightly broader than the head or the first abdominal segment, and twice as long as the prothorax. The sides are slightly diverging, with broadly rounded latero-posterior angles in which one seta is situated. Slightly nearer the middle, on the posterior border, there is a group of four very long pustulated setae situated in a small uncolored area. Posterior border slightly angulated on abdomen. Legs pale, with brown borders. Forelegs short, with the coxae narrowly separated, middle and hind legs long, hind legs longest, and with widely separated coxae.

Abdomen of nine segments, elongate with sides somewhat parallel, and with a peculiar, somewhat spade-shaped ninth segment. Segments 1 to 8 about equal in length except segments 3 and 4, which are somewhat shorter than the rest; widest at segment 3. Segment 9 slightly bilobed, elongated, slightly longer than wide, and about three-fifths as wide as segment 8. Light brown in color, with dark brown pleurites forming a lateral band interrupted at sutures, lighter brown median markings, and with a clear space or band just inside the lateral band in which the small spiracles on segments 2 to 7 are situated. The general color of the ninth segment is very light brown, with medium dark brown anterior border and lateral borders, thus leaving a clear central portion. On the dorsal surface segment 1 has two setae near middle of anterior border and a curved row of four setae behind these. Segments 2 to 6 have a curved row of six setae near the posterior border of each segment. Segment 7 has four setae, segment 8 has two setae near anterior border and a group of three setae in an elongated triangular uncolored area on each side near the posterior border, the outermost being much the longest. A few setae are present on the ventral surface. On the lateral margins of segments 1 and 2 there are no setae; segments three and four have one seta in posterior angles, and segments five and six have two setae, segment 7 has four setae, and segment 8 has two setae near the anterior border of the segment, one being very long. Segment 9 has three small setae near the anterior border of

the segment. Genitalia distinctive, having an elongated basal plate extending forward into the third abdominal segment (fig. 2).

Description of FEMALE. *Head* as in the male except that the trabeculae and antennae are each about half as large, and the trabeculae are not movable. The antennae, if extended backwards, will not reach the posterior border of head. (See fig. 1.)

Thorax and legs as in the male except that the thorax is somewhat shorter and broader.

Abdomen slightly longer and somewhat broader than that of the male. Segments 1 to 8 about equal in length; widest at fourth segment. Eighth and ninth segments fused, somewhat trapezoidal in shape, about two-fifths as wide posteriorly as anteriorly, and slightly bilobed. The color is somewhat different from that of the male. The pleurites and the area between them and the spiracles are dark brown, forming a wide dark brown continuous lateral band as the pleurites extend into the preceding segment. The median markings are dark brown also, are separate on segments 1 to 7, and are shaped like an hourglass, with a diamond-shaped median golden brown area. On segments 5, 6. 7, and 8 there is a longitudinal median brown rod lying in the clear lateral area. The posterior half of segment 8 is dark brown, shading to light brown posteriorly, with a narrow median uncolored area. Setae about the same as on the male.

Description of IMMATURE FORMS. The eleven immature specimens at hand, all over half grown, show the typical angulated front and have the same number of setae in about the same position as the adults.

Average Measurements in mm.

	Male		Female	
	Length	Width	Length	Width
Head	0.721	0.483	0.742	0.516
Thorax	.612	.583	.606	.611
Abdomen	1.863	.637	1.916	.837
Total	3.196		3.264	

Type Host.—Gallus domesticus, chicken.

Type Locality.—Great Ragged Island, BAHAMA ISLANDS, BRITISH WEST INDIES.

Type Slide.—Cat. No. 43488 U. S. N. M.

The *holotype* male and *allotype* female on the type slide were collected from chicken at the type locality on July 3, 1930, by myself (Bishopp No. 15063). The *paratypes* are in the collection of the Bureau of Entomology and in my personal collection.

This species is most closely related to *Lipeurus lawrensis* Bedford (1929), described from a wild guinea fowl from Africa, but is easily separated by the angulated front, posterior segment of male, differences in coloration and chaetotaxy, and by being about three-fourths mm. shorter in length. *L. tropicalis* possibly originated from a wild guinea, as I find specimens in the National Museum, collected from five species of wild guineas from Africa, which may be referred to this species, all having the angulated front, although they may be separated as varieties at some future time. *L. tropicalis* is very easily differentiated from *L. heterographus* and *L. caponis*, commonly found on chickens, by its larger size, angulated front, and male genitalia.

Notes on the Homing of Several Species of Wasps (Hym.: Chrysididae, Sphegoidea, Vespoidea).

By Phil Rau, Kirkwood, Missouri.

While taking carpenter-bees and burrowing-bees afield* to test their ability to find their way back home, it was sometimes possible to pick up various species of wasps also, paint them with distinguishing marks and liberate them, along with the others, at fixed distances from their homes. The results of these experiments are noted below.

Two cuckoo-bees, *Chrysis* (*Tetrachrysis*) *laminifera* Bischoff [G. Sandhouse] and *Chrysis* (*Hexachrysis*) sp. [G. Sandhouse] were liberated on July 10, at 4:20 p.m., one mile from the place of their capture. Both returned the next morning, at 9:10 and 9:50 o'clock. These are parasitic bees, and it is surprising that they should remember and manifest so much interest in the nest of the host and return to it in the same way as does a nesting bee.

* Journ. Comp. Psychol. *9:* 35-70, 1929.

A mud-daubing wasp, *Sceliphron caementarium* female, was carried one-third mile east of the clay bank where it was found getting mud, and liberated at midday, September 1. She returned in 25 minutes.

Three females of *Trypoxylon clavatum* were liberated on July 10, at 4:20 p.m., one mile from the clay bank in which they were nesting in old bee burrows. One returned the next morning at 10:05.

Four *Trypoxylon albopilosum* (females) nesting in the clay bank, were taken away one mile and liberated at 4:20 p.m. Three returned the same afternoon, in 15 minutes, 1 hour and 1¼ hours, respectively. The fourth never arrived home. Another one, liberated at a distance of two miles, did not return.

Ancistrocerus fulvipes was liberated on July 10, one mile from home at 2:15 p.m.; it returned at 4:30.

Two males and four females of *Monobia quadridens* were liberated at two miles distance at midday; none returned. One female was captured as she brought in a caterpillar to her nest, and was carried away one mile at 1:20 p.m. She reappeared the next morning at 10 o'clock, but her sister, liberated at the same time, did not return.

A marked female of the grass-carrier, *Chlorion auripes*, was set free June 22 at 11:45, at a point two miles from the building where it nested. Up to noon the next day it did not return. However, it later found its way home, because one week later it was taken, still wearing its dot of red paint, while bringing in a cricket to its nest. It was again carried to the two-mile point and liberated at 2:57 p.m. It found its way home more quickly this time, consuming only two hours and two minutes in the flight.

One queen of *Polistes pallipes* was marked and liberated two miles from home at 10:30 a.m. Sunday, and it returned at 8:50 a.m. Monday. It took her over 22 hours, but she eventually reached home. It may actually have taken this length of time to find her way home from a distance of two miles, and again she may have indulged in a little loafing along the way, as we know *Polistes* sometimes do.

Some Unusual Occurrences of Butterflies in Connecticut (Lepid.: Pieridae, Nymphalidae).

By J. R. HASKIN, Waterford, Connecticut.

From California the land of sunshine and butterflies to Connecticut is a far cry but I find that even in Connecticut, my new home, many interesting field notes can be made if one is observant.

In the January, 1931, NEWS, is reported the capture of *Catopsilia philea* in Missouri in June, 1930. This was of particular interest to me because we took one in Connecticut also. On August 26, 1930, my daughter observed and netted a large showy butterfly hovering about the flowers on our lawn at Oswegatchie Point. From the fresh appearance of the butterfly I doubt very much if it had flown a great distance. My theory is that it came up from the tropics in chrysalis form, presumably on a bunch of bananas or in a box of tropical fruits or vegetables. Such occurrences have been noted in connection with other species also.

On September 25, I took a specimen of *Euptoicta claudia* Cramer. This specimen was so recently hatched from its chrysalis that it was hardly able to fly. The wings were still quite fragile. It certainly must have existed in chrysalis form here in Waterford, and one wonders how this could have happened. A very careful search of the locality during several days succeeding failed to discover any others of the species.

The summer of 1930 was particularly dry and hot and reminded me continually of the average Southern California weather. Throughout the entire season *Colias philodice* was one of the commonest butterflies in this vicinity. Its size and color varied as the spring, summer, and autumn seasons advanced. On October 13, I had taken several in an open field, and much to my surprise I then captured a very fresh and weak-flying female butterfly that compared exactly with some of the richest colored *Colias eurytheme amphidusa* that I took in California. The color of the black borders is very wide and dark and very heavily developed on the secondaries. The primaries are heavily suffused with orange, while the orange spot on the secondaries is very dark and large and the secon-

daries are heavily suffused with black overlaid with a tinge of orange. I took this specimen late in the afternoon and found only one or two more normal *philodice* after a careful search of the field. The next day it turned cold and stormy and October 13 proved to be the last successful collecting day of the season. I intend to watch this field very carefully during the coming spring to see whether any more of this unusual type appear. Query:—Did the unusually dry and hot summer of 1930 result in this fall-hatched specimen from the normal *philodice* or is it only a freak specimen?

I noticed throughout the latter part of the season that *Terias lisa* was unusually abundant. These are not uncommon in this vicinity but one generally takes only an occasional specimen.

A Coleopterous Enemy of Corydalis cornuta L. (Anthicidae ; Neur. : Sialididae).*

By Paul N. Musgrave, Fairmont, West Virginia.

Last August while collecting aquatic insects in the South Branch of the Potomac River, Pendleton County, West Virginia, practically all egg masses of *Corydalis cornuta* L. were found to be infested by an Anthicid beetle, *Anthicus heroicus* Casey. At least 95% of egg masses examined were found to have from one to four small holes cut through the outer coating and into the center of the mass. The size, shape and location of the openings varied a great deal, some being only large enough to admit the adult beetle, 2-3 mm. in diameter, while others were much larger and irregular in shape. Some openings were cut in the center of the mass and others at the edge. The only variation in the percentage of infestation was found in masses placed on leaves of trees, or stones on the shore, where it was possible for ants to reach them. Whether or not the ants were the controlling factor, masses found on shore rocks and ledges were much more likely to be free from infestation than those laid on stones in the middle of the stream.

Opening an infested mass usually meant the discovery of from one to eight adult beetles which immediately tried to

* Contribution from Department of Entomology, West Virginia University.

escape. Sometimes they flew directly from the mass, sometimes dropped to the water and then flew from the surface of the water but usually they ran to a crevice in the stone or into another egg mass. Often a stone would have twenty to thirty masses on one surface with most of them infested and then the disturbed beetles resembled an opened ant hill as they ran here and there trying to find a hiding place. Besides the adults, larvae of different sizes and ages were found. As many as fourteen small larvae were found in one mass and eight or ten was a common number. Adults and larvae were regularly found in the same mass but usually adults would be in company with larger larvae only.

When the larvae are ready to pupate they hollow out a small cell in the crevice-soil, or more rarely in the debris of the egg mass itself. In examining several hundreds of egg masses only three pupae were found in the masses, while they were common in the sandy soil in which moss (*Grimmia apocarpa* (L.) Hedw.) was growing. However many cells containing full-grown larvae were found in the egg masses and it may be that they commonly pupate there. Adults emerged August 30-September 5 from pupae collected in August.

The larvae were determined by Dr. Adam G. Böving and adults by Mr. H. S. Barber, both of the United States National Museum and to whom thanks are due. Dr. L. O. Howard apparently first discovered an Anthicid (*Anthicus haldemanni* Lec.) in the egg mass of the Dobson in 1895 on the rocky shores of the Potomac near Washington and since that time Schwartz, Knab, Barber and others have noticed the same occurrence but apparently nothing has appeared in print.

Three other species of adult *Anthicus* were found in company with *heroicus*: *A. cinctus Say, A. pubescens Laf.* and *A. cervinus Laf.* No larvae of any of these were discovered however.

Congratulations to Dr. L. O. Howard.

The daily papers of June 13 reported that Dr. L. O. Howard was awarded for 1931 a gold medal and $5000 for distinguished service to agriculture, given annually by Senator Arthur Capper of Kansas. The hearty congratulations of the NEWS are extended to Dr. Howard.

Notes on Blattidae, Adventive to the United States (Orthop.).

By A. N. CAUDELL,

United States National Museum, Washington, D. C.

Among miscellaneous material in the National Museum are the following species of cockroaches, the first four being apparently new to our fauna:

HOLOCOMPSA AZTECA Saussure. One mature female taken at Nogales, Arizona, June 8, 1919, by F. J. Dyer. This is the second species of this genus found within our borders, *Holocompsa nitidula* Fabricius having been taken by Rehn and Hebard. An adventive specimen of this latter species was also recorded from Washington, D. C., by the present writer in 1907.

HEMIBLABERA TENEBRICOSA Rehn and Hebard. An adult pair of this large West Indian roach was taken on Key Largo, Florida, in January, 1896, by E. A. Popenoe.

CAPUCINELLA DELICATULA Hebard. One female specimen of this Panamanian roach was taken at Los Angeles, California, by H. M. Armitage in October, 1929, in a bunch of bananas. This specimen, unquestionably an adventive, is in the National Museum.

EURYCOTIS CARAIBEA Bolivar. An adult male of this insect was taken at Brainerd, Minnesota, in July, 1921, by D. Sanders, who found it in a crate of peaches, presumably in a market. This is certainly adventive.

EURYCOTIS DIMIDIATA Bolivar. Under the name *Eurycotis caraibea,* Mr. Hebard recorded a specimen of this roach as occurring adventive at Berwick, Pennsylvania (1). This determination was later corrected to *dimidiata* (2). On February 13, 1924, another adventive of this species was taken on bananas in the public market in Washington, D. C. This was a nymph in the last instar when taken and the reared adult, a male, exhibits some characters not agreeing wholly with those of *dimidiata.* It seems nearer that species, however, than any other described form and Mr. Hebard, who examined the specimen, pronounced it *dimidiata* or a closely allied species.

[1] Mem. Amer. Ent. Soc., No. 2, p. 266 (1917).
[2] Bull. Amer. Mus. Nat. Hist., vol. liv, p. 174, foot-note 1 (1927).

Entomological Literature

COMPILED BY LAURA S. MACKEY UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The numbers within brackets [ ] refer to the journals, as numbered in the list of Periodicals and Serials published in the January and June numbers (or which may be secured from the publisher of Entomological News for 10c), in which the paper appeared. The number of, or annual volume, and in some cases the part, heft, &c. the latter within ( ) follows; then the pagination follows the colon :

All continued papers, with few exceptions, are recorded only at their first installments.

*Papers containing new forms or names have an * preceding the author's name.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

☞*Note the change in the method of citing the bibliographical references, as explained above.*

Papers published in the Entomological News are not listed.

GENERAL.—Bather, F. A.—Is an international zoological nomenclature practicable? [68] 73: 612-613. (S). **Bedford, H. W.**—A description of the methods adopted in the Sudan in the organization of the insect collections and the systematic compilation of records. [Wellcome Trop. Res. Lab.] Ent. Bull. 32: 21 pp., ill. **Carpenter, F. M., et al.**—The evolution of the class Insecta. [16] 21: 531-539. **Hayward, K. J.**—News from the Argentine. [21] 43: 77-81. **Hendrickson, G. O.**—Subterranean insects of marsh grass (Spartina michauxiana). [4] 63: 109-110. **McGlashan, C. F.**—Obituary. By E. O. Essig. [55] 7: 97-99. **Sherborn, C. D.**—Index animalium. Sec. 2. Pts. 23-24. **Thorpe, W. H.**—Miscellaneous records of insects inhabiting the saline waters of the Californian desert regions. [55] 7: 145-153. **Tillyard, R. J.**—The evolution of the class Insecta. [Pap. & Pro. R. Soc. Tasmania] 1930: 1-89, ill. **Uvarov, B. P.**—Insects and climate. [36] 79: 1-247, ill. **Wimmers, C.**—Ed. Study, ein mathematiker und entomologe. [14] 44: 316-318.

ANATOMY, PHYSIOLOGY, ETC.—Bertholf, L. M.—Reactions of the honeybee to light. [113] 42: 379-419, ill. **Chow, C. H.**—Sur le développement du carpophore chez Coprinus tomentosus. [69] 192: 1121-1123. **Corset, J.**—Les coaptations chez les insectes. [Sup. Bull. Biol. Fr. et Belg.] 13: 337 pp., ill. **Goldschmidt, R.**—Analysis of intersexuality in the gypsy-moth. [73] 6: 125-142. **Metz, C. W.**—Chromosomal differences between germ cells and soma in Sciara. [97] 51: 119-124, ill. **Reith, F.**—Zur experimentellen

analyse der primitiventwicklung bei insekten. [88] 19: 398-399. **Schmucker, T.**—Ueber asymmetrisches verhalten von Hymenopteren an blüten. [97] 51: 15-18, ill. **Schrader, F.**—The chromosome cycle of Protortonia primitiva and a consideration of the meiotic division apparatus in the male. [94] 138: 386-408, ill. **Smirnow, G. G.**—Ueber die wirkung der Anthelminthica auf die wanderung der Ascaridenlarven. Experimentelle untersuchungen. [Zeit. Parasit., Berlin] 3: 173-184. **Thompson, W. R.**—On the reproduction of organisms with overlapping generations. [4] 63: 147-172, ill. **Walker, E. M.**—On the clypeus and labium of primitive insects. [4] 63: 75-81, ill.

ARACHNIDA AND MYRIOPODA.—*Chamberlin, R. V.—On three new new chilopods. [55] 7: 189-191. **Matheson, R.**—Note on the tick Ornithodorus talaje. [Parasit.] 23: 270.

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RECENT ADVANCES IN ENTOMOLOGY. By A. D. IMMS. Philadelphia, P. Blakiston's Son & Company. 1931. 374 pp., 84 illustrations. $3.50.—It was a happy thought which led Dr. Imms to write this book, and a fortunate thing for us that he was the man to whom this thought occurred. The fifteen chapters deal with many diverse aspects of modern Entomology, including aspects of Morphology, Metamorphosis, Palaeontol-

ogy, Sense Organs and Behaviour, Coloration, Aspects and Practical Applications of Ecology, Parasitism and Biological Control. It is true that five other volumes of the same sort might be written, without exhausting the ramifications of Entomological Science; but although they would be very interesting, they would not be so interesting as the menu which Imms has prepared for us. He has chosen the most significant lines of advance, and has recorded an astonishing number of observations and discoveries, often in fields which were hardly explored until very recently. If any critic wishes to complain of omissions, he may not only refer to many large topics ignored, but also to the lack of all reference to numerous papers on the topics included. I do not think these are valid criticisms, because from the standpoint of the reader a lucid, intelligible and thoroughly readable story is infinitely preferable to a catalogue of miscellaneous contributions. If we ask ourselves what impressions may be derived from reading the book, perhaps the following will come uppermost. First, the extraordinary diversity of Entomological Science as now understood, its numerous points of contact with fundamental biological problems, and no less with the practical affairs of life. Whereas formerly the Entomologist was thought of as a rather isolated and erratic member of the biological fraternity, now he finds himself in the front ranks of biological progress. Second, the novelty of much that is recorded, and the fact that we stand on the edge of a vast territory to be explored. Not only this, but such exploration may be undertaken by any serious student of reasonable ability, with almost no expense. The field lies before us, and time and persistence are the prime necessities for success. Third, the interrelations between Entomology and the other natural sciences, Botany, Geology, Physics, Chemistry. The Entomologist stands on his own particular hill, but he surveys the universe. The physicist and chemist may ignore Entomology, but the Entomologist cannot ignore Physics and Chemistry. Thus, in the long run, he may be the better trained man, with a larger outlook on the realities of existence. Indeed, he also has to concern himself with certain aspects of economics and sociology, and may make bold to have scientific opinions on political questions.

But perhaps we have said too much. The aspiring student may retire in terror before such a program. How much simpler to become a teacher of College Algebra! Who can, being a mere mortal of limited powers, pretend in these days to be a competent Entomologist? I think that we of that profession are doomed to go through life with a sense of our

inadequacy, with the feeling that we are not equal to our task. But the same is true of life itself, which has always presented an insoluble enigma to many. This very sense of incompleteness, of things unfulfilled, is the greatest attraction. The road may be hard and difficult and we cannot see where it ends, but it is a fine thing to be moving along, with a new vista around each bend. It is to such adventurers that Imms appeals, with rare skill and judgment.

How rapidly we are moving is shown by the criticism which is naturally suggested on reading the chapter on Fossil Insects. There is no evidence that the author has ever heard of F. M. Carpenter. But actually, Carpenter's most important papers, those which might well have affected the conclusions set forth in the chapter, are too recent to have been available when it was written. It does seem, that in the chapters on Morphology, some reference might have been made to the work of Petrunkevitch on the organization of the Arthropoda. Referring to the distribution of the tsetse fly, the author remarks: "The tsetse fly, for example, is unable to survive the ecological conditions presented by the Sahara Desert, and consequently has not penetrated north of that vast area. Similarly, it has not spread into Asia, where the Arabian Desert presents a more formidable barrier than the relatively narrow strip of water forming the Red Sea." If we write "does" for "has", this is sound enough; but probably Dr. Imms had forgotten that several species of tsetse flies are fossil in the Miocene of Colorado. The statement (p. 82) that there are no fossil Micropterygidae overlooks the existence of a species (to be seen in the British Museum) in Burmese amber. (Tillyard wrongly says in Baltic amber.) Some other details in the account of fossil insects need revision, and especially it is necessary to offer a warning against the uncritical acceptance of "restorations", and the undue significance often attributed to names which appear in the literature, but actually have no very sound basis. Thus, reference is made to *Genaphis* Handlirsch (the type of a family Genaphididae Handlirsch), from the Mesozoic of England. It is known by the figure in Brodie's work, and does appear to be an aphid, but we have little information concerning it. Is it not possible to take a small figure like this of a very minute object too seriously? Paleoentomology is full of pitfalls, and it is all too easy to make mistakes of interpretation. A curious recent example of this is afforded by the discussion of *Odynerus palaeophilus* in Psyche, December, 1929 (issued March, 1930) page 368. Two such competent experts as Bequaert and Brues

looked at the type with a lens, and decided that it was not one of the Diploptera. But later, Carpenter very kindly made for me a greatly enlarged photograph of the type, and a more typical Diplopteron, and Odynerid, it would be hard to find. As stated in my original description (1906), "it would be easy to misinterpret the venation of this insect." See Plate V in this issue of ENTOMOLOGICAL NEWS.

T. D. A. COCKERELL.

OBITUARY.

FERDINAND F. CREVECOEUR, an amateur entomologist and naturalist who has been the source of many insect records from Onaga, Kansas, died suddenly on April 7, 1931. He was buried in the Onaga cemetery. Mr. Crevecoeur was born at Chicago, Illinois, June 23, 1862. Following the death of his father, he, in April, 1870, came with his mother to live on a farm near Onaga, Kansas, where he lived until his death. He remained a bachelor and lived alone after his mother's death in 1908. A United States Department of Agriculture Yearbook came into his possession, which opened up to him a field of biological science and geology. He had much correspondence with officials of the United States Department of Agriculture, who gave him much encouragement. The U. S. Department of Agriculture, the Smithsonian Institution and the National Museum sent him their publications in the biological and geological fields. To these services and the Kansas Academy of Science he gave the major credit for his technical knowledge and encouragement.

In 1917, Mr. Crevecoeur gave practically all of his natural history collection to Ottawa University, at Ottawa, Kansas. As an amateur, he published quite extensively. There have been published several more or less popular articles in the *Onaga Republican*, one article in ENTOMOLOGICAL NEWS, 1903, and nine articles in the *Transactions* of the Kansas Academy of Science (1903-1922). A biography and also a bibliography have been prepared by Dr. Roger C. Smith for publication in the *Transactions* of the Kansas Academy of Science.

R. L. PARKER.

ODYNERUS PALAEOPHILUS.—COCKERELL.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

Wanted.—Elateridae and their larvae (wireworms) from all parts of North America; would prefer the larvae alive, if possible, for biological studies. Will exchange Pennsylvania Elateridae and Scarabaeidae.—C. A. Thomas, Penna. State College Lab., Kennett Square, Pa.

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